

**COMMONWEALTH OF VIRGINIA**  
**Department of Environmental Quality**  
**Southwest Regional Office**

**STATEMENT OF LEGAL AND FACTUAL BASIS**

Carroll-Grayson-Galax Solid Waste Authority  
162 Landfill Road, Hillsville, Virginia 24343  
Permit No. SWRO11598

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, the Carroll-Grayson-Galax Solid Waste Authority has applied for renewal of the Title V Operating Permit for its Carroll-Grayson-Galax Regional Landfill at 162 Landfill Road, Hillsville, Virginia. The Department has reviewed the application and has prepared a renewal of the Title V Operating Permit.

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Date: 8/19/13

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Date: 8/19/2013

Regional Director: Allen J. Newman  
Allen J. Newman, P.E.

Date: 8/19/2013

## **FACILITY INFORMATION**

### Permittee

Carroll-Grayson-Galax Solid Waste Authority  
P.O. Box 1837, Hillsville, Virginia 24343

### Facility

Carroll-Grayson-Galax Regional Landfill  
162 Landfill Road, Hillsville, Virginia 24343

County-Plant Identification Number: 51-035-00087

## **SOURCE DESCRIPTION**

NAICS Code: 562212 - Collection and disposal of non-hazardous solid waste.

The Carroll-Grayson-Galax Regional Landfill facility consists of two landfill units located on contiguous property and separated by landfill haul roads. Each landfill unit accepts only municipal solid waste (MSW), and construction and demolition debris.

The first landfill unit, Landfill #1, Solid Waste Permit Number 508, accepted waste from 1987 until December 12, 2012. Landfill #1 is no longer accepting waste and is being closed and capped. DEQ issued a certificate to operate on March 16, 2010, for the second landfill unit, Landfill #2, Solid Waste Permit Number 605, and this unit is currently accepting waste. Total permitted capacity of the facility including both landfill units is 3,381,780 cubic meters. Based on a reported compaction of 1,250 pounds per cubic yard, the calculated mass capacity of the facility is 2,508,050 megagrams. Currently, there is no landfill gas (LFG) collection and control system in place for either landfill unit.

Emissions from the landfill units include non-methane organic compounds (NMOC), volatile organic compounds (VOC), hazardous air pollutants (HAP), and fugitive dust. This source is located in an attainment area for all pollutants, and is a Prevention of Significant Deterioration (PSD) minor source. The facility is permitted under a minor New Source Review (NSR) permit issued on August 20, 2008.

## **COMPLIANCE STATUS**

A full compliance evaluation with site visit of this facility was completed on July 26, 2011. In addition, all reports and other data required by regulations, which are submitted to DEQ, are evaluated for compliance. Based on these evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

# **EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION**

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
<b>Municipal Solid Waste (MSW) Landfill</b>							
ES-1	-----	Landfill #1, Solid Waste Permit No. 508	1,137,663 m <sup>3</sup>	-----	-----	-----	August 20, 2008
	-----	Landfill #2, Solid Waste Permit No. 605	2,244,117 m <sup>3</sup>				
ES-2	-----	Landfill surface and haul roads	-----	Wet suppression	-----	Fugitive dust	August 20, 2008

\*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

## EMISSIONS INVENTORY

A copy of the 2011 annual emission update is attached. Emissions are summarized in the following table:

**2011 Actual Emissions**

	<b>Criteria and Hazardous Air Pollutant (HAP) Emissions in Tons/Yr</b>						
<b>Emission Unit</b>	<b>VOC</b>	<b>NMOC</b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>HAP</b>
ES-1: Landfill #1 and Landfill #2	1.46	2.32	0.63	---	---	---	0.53
ES-2	---	---	---	---	---	27.81	---
Total	1.46	2.32	0.63	---	---	27.81	0.53

## EMISSION UNIT APPLICABLE REQUIREMENTS – LANDFILL REQUIREMENTS (ES-1):

### Limitations

The following requirements are from the minor NSR Permit issued on August 20, 2008:

Condition 2: The total design capacity of the municipal solid waste landfill is 3,381,780 cubic meters. A change in the design capacity may require a permit to modify and operate.

Condition 3: Unless Tier 2 or Tier 3 sampling demonstrates that the MSW landfill emission rate is less than 50 megagrams per year, the permittee shall, within 30 months of the first annual emission rate report in which the emission rate equals or exceeds 50 megagrams per year, install and operate a landfill gas (LFG) collection and control system which:

Is designed to handle the maximum expected gas flow rate from the entire area of the landfill;

Collects gas from each area, cell or group of cells in which initial solid waste has been in place for a period of:

Five years or more if active; or

Two years or more if closed or at final grade;

Collects gas at a sufficient extraction rate;

Is designed to minimize off-site migration of subsurface gas;

Reduces NMOC by 98 weight-percent or, for an enclosed combustion device, either reduces NMOC by 98 weight-percent or reduces the outlet concentration to less than 20 ppmv, dry, as hexane, at 3% oxygen.

Maintains the methane concentration at the surface of the landfill at less than 500 ppmv above the background level.

Condition 4(a): Fugitive dust from grading, cell construction, waste compaction, application of daily cover, storage piles, material handling, load-outs and traffic areas shall be controlled by wet suppression or equivalent control measures (as approved by the DEQ).

*The General Requirements section of the Title V permit contains the same fugitive dust control requirements as Conditions 4(b) – 7(d) of the NSR permit. Therefore, to reduce redundancy, Conditions 4(b) – 7(d) of the NSR permit are not included in this section.*

Condition 6: Except where this permit is more restrictive than the applicable requirements, the municipal solid waste landfill shall be constructed and operated in compliance with the requirements of 40 CFR 60, Subpart WWW.

Condition 22: The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

Maintain an inventory of spare parts.

Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.

## **Monitoring and Recordkeeping**

The monitoring and recordkeeping requirements in the minor NSR permit issued August 20, 2008 have been modified to meet Part 70 requirements.

Condition 7: The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Southwest Regional Office. These records shall include, but are not limited to:

Current maximum design capacity, current amount of refuse in place, and year by year refuse accumulation rates.

Description, location, amount, and placement date of all non-degradable refuse including asbestos and demolition refuse placed in landfill areas which are excluded from landfill gas estimation.

Condition 22: Records of scheduled and unscheduled maintenance, and operator training.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

## **Testing**

The following testing requirement is from the minor NSR Permit issued on August 20, 2008:

Condition 5: The municipal solid waste landfill shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility/equipment such that pollutant emission rates can be accurately determined by applicable test methods. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.

The facility is subject to 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills since it was modified with the addition of Landfill #2 after May 30, 1991. Tier 1 calculations indicated landfill NMOC emissions greater than 50 megagrams per year. Subsequent Tier 2 testing conducted by the permittee in accordance with procedures in 40 CFR 60.754(a)(3), indicate emissions of NMOC less than 50 megagrams per year. Therefore, as a landfill modified after May 30, 1991, with a NMOC emission rate less than 50 megagrams per year, the following provisions of Subpart WWW apply:

40 CFR 60.754(a)(3)(iii): Retest the site specific NMOC concentration every 5 years using the methods specified in this section.

## Reporting

The following reporting requirements are from the minor NSR Permit issued on August 20, 2008:

Condition 8: No later than April 15 of each year, unless the permittee elects to submit a five-year NMOC emission rate report, the permittee shall submit an annual NMOC emission rate report to the Director, Southwest Regional Office. The NMOC emission rate shall be calculated in accordance with the procedures contained in 40 CFR 60.754(a) or (b), as applicable. The report shall include all data, calculations, sample reports and measurements used to estimate the emissions. One copy of the annual NMOC emission report shall be submitted to the U.S. Environmental Protection Agency at the address specified in Condition 18.

Condition 9: If the estimated NMOC emission rate, as presented in the annual report required in Condition 8, is less than 50 Mg/yr in each of the next five consecutive years following the initial NMOC report, the permittee may elect to submit an estimate of the NMOC emission rate for the next five year period in lieu of the annual report. The estimate shall include the following:

Current amount of solid waste in place, and

The estimated waste acceptance rate for each year of the five years for which an NMOC emission rate is estimated.

The NMOC emission rate shall be calculated in accordance with procedures contained in 40 CFR 60.754(a) or (b), as applicable. All data, calculations, sample reports and measurements upon which the estimate is based shall be presented with the report to the Director, Southwest Regional Office. The estimate shall be revised at least every five years. One copy of the five-year NMOC emission report shall be submitted to the U.S. Environmental Protection Agency at the address specified in Condition 18.

Condition 10: If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the five-year estimate, a revised five-year estimate shall be submitted to the Director, Southwest Regional Office. The revised estimate shall cover the five year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate and shall be submitted within 180 days of the first exceedance of the estimated waste acceptance rate. One copy of the revised NMOC emission report shall be submitted to the U.S. Environmental Protection Agency at the address specified in Condition 18.

Condition 11: If the reported NMOC emission rate, in the annual or revised five-year report, is equal to or exceeds 50 megagrams per year, the permittee shall:

Submit an LFG gas collection system and control plan to the Director, Southwest Regional Office, or

Within 180 days of the emission rate report in Condition 8 or Condition 10, demonstrate, using a site specific NMOC concentration (Tier 2), that NMOC emission do not equal or exceed 50 megagrams per year, submit a revised NMOC emission rate report to the Director, Southwest Regional Office, resume annual NMOC emission rate reporting, and retest the site specific NMOC concentration every five years.

One copy of the LFG gas collection system and control plan shall be submitted to the U.S. Environmental Protection Agency at the address specified in Condition 18.

*Tier 1 calculations indicated landfill NMOC emissions greater than 50 megagrams per year. Subsequent Tier 2 testing conducted by the permittee in accordance with procedures in 40 CFR 60.754(a)(3), indicate NMOC emissions less than 50 megagrams per year. Therefore, the only requirements from Condition 11 of the minor NSR permit that apply to the facility are the annual NMOC emission rate reporting as required in Title V permit conditions III.D.1 – 3, and retesting the site specific NMOC concentration every five years. Condition III.D.4 has been removed from the Title V permit. Applicable reporting requirements are contained in Conditions III.D.1 – 3 and a condition has been added to the testing section requiring a retest of the site specific NMOC concentration every five years as required by 40 CFR 60.754(a)(3)(iii).*

Condition 12: If, using a site specific NMOC concentration, the NMOC emission rate is equal to or exceeds 50 megagrams per year, the permittee shall:

Submit an LFG gas collection system and control plan to the Director, Southwest Regional Office, or

Within one year of the emission rate report in Condition 8 or Condition 10, demonstrate using a site specific methane generation constant (Tier 3), that NMOC emission do not equal or exceed 50 megagrams per year, submit a revised NMOC emission rate report to the Director, Southwest Regional Office and resume annual NMOC emission rate reporting.

One copy of the LFG gas collection system and control plant shall be submitted to the U.S. Environmental Protection Agency at the address specified in Condition 18.



Condition 13: The landfill gas collection and control system design plan required by Condition 11 or Condition 12 shall be submitted to the Director, Southwest Regional Office, within one year after submitting the NMOC emission rate report required in Condition 8 or Condition 10, reporting an NMOC emission rate which equals or exceeds 50 megagrams per year.

Condition 14: If the permittee is required to install a gas collection and control system according to the provisions of 9 VAC 5-50-410 Subpart WWW, the permittee shall apply for a solid waste permit amendment in accordance with Part VII (9 VAC 20-80-480 et seq.) of 9 VAC 20 Chapter 80 (Solid Waste Management Regulations).

Condition 15: If the permittee is required to install a gas collection and control system according to the provisions of 9 VAC 5-50-410 Subpart WWW, the permittee shall apply for a Title V operating permit modification within 90 days of date of approval of the gas collection and control plan.

Condition 16: Within 30 days of the date the MSW landfill stopped accepting waste, the permittee shall submit a closure report to the Director, Southwest Regional Office.

Condition 17: The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Director, Southwest Regional Office by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the DEQ.

Condition 18: The permittee shall furnish written notification to the Director, Southwest Regional Office of modification and startup and provide copies to the U.S. Environmental Protection Agency at the specified address.

*The permittee has completed the one-time notification requirements in Condition 18 of the minor NSR permit; therefore, those provisions are not included in the Title V permit renewal.*

The facility is subject to 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills since it was modified with the addition of Landfill #2 after May 30, 1991. Tier 1 calculations indicated landfill NMOC emissions greater than 50 megagrams per year. Subsequent Tier 2 testing conducted by the permittee in accordance with procedures in 40 CFR 60.754(a)(3), indicate NMOC emissions less than 50 megagrams per year. Therefore, the following provisions of Subpart WWW apply:

40 CFR 60.754(a)(3)(iii): Submit a periodic estimate of the emission rate report as provided in §60.757(b)(1).

**GENERAL CONDITIONS**

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating-permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

**Comments on General Conditions****B. Permit Expiration**

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 2-2003".

**F. Failure/Malfunction Reporting**

Section 9 VAC 5-120-180 requires malfunction and excess emissions reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to 9 VAC 5-20-180 including Title V facilities. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four day time business hours of discovery of the malfunction.

**U. Malfunction as an Affirmative Defense**

The regulations contain two reporting requirements for malfunction that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on General Condition F.

**Y. Asbestos Requirements**

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

**INAPPLICABLE REQUIREMENTS**

Results of the LandGEM model for the Carroll-Grayson-Galax Regional Landfill submitted as part of their 2011 Emissions Statement indicate the landfill generated approximately 1,284 short tons of methane and 3,523 short tons of carbon dioxide in 2011, which is a total of 24,462 metric

tons of carbon dioxide-equivalent (CO<sub>2e</sub>) per year. The LandGEM model output is attached. The provisions of 40 CFR Part 98 – Mandatory Greenhouse Gas Reporting require owners and operators of municipal solid waste landfills that generate methane in amounts equal to or greater than 25,000 metric tons CO<sub>2e</sub> per year, to report greenhouse gas (GHG) emissions, annually. However, the definition of “applicable requirement” in 40 CFR 70.2 and 71.2 does not include requirements such as those included in Part 98, promulgated under Clean Air Act (CAA) section 114(a)(1) and 208. Therefore, the requirements of 40 CFR Part 98 are not applicable under the Title V permitting program.

As a result of several EPA actions regarding GHG under the CAA, emissions of GHG must be addressed for a Title V permit renewed after January 1, 2011. The current state minor NSR permit for the Carroll-Grayson-Galax Regional Landfill contains no GHG-specific applicable requirements and there have been no modifications at the facility requiring a PSD permit. Therefore, there are no applicable requirements for the facility specific to GHG.

The facility is not a major source, is not collocated with a major source, and Tier 2 testing indicates uncontrolled emissions of NMOC less than 50 megagrams per year. Therefore, in accordance with 40 CFR 63.1935, the facility is not subject to the provisions of 40 CFR Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills.

### INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation <sup>1</sup> (9 VAC_)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
----	Two propane-fueled space heaters located in maintenance garage	9 VAC 5-80-720 A	----	----

<sup>1</sup>The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A – Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B – Insignificant due to emission levels

9 VAC 5-80-720 C – Insignificant due to size or production rate

### **CONFIDENTIAL INFORMATION**

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

### **PUBLIC PARTICIPATION**

A public notice regarding the draft permit was published on June 28, 2013, in the *Galax Gazette* in Galax, Virginia. A copy of the draft permit and public notice were sent to the USEPA by e-mail on June 21, 2013. A copy of the public notice was sent no later than June 28, 2013, to the affected states, which include West Virginia and North Carolina, and to all persons on the Title V mailing list.

The public comment period began on June 28, 2013, and ended on July 29, 2013. The USEPA 45-day review period began on June 28, 2013, and ended on August 12, 2013. No comments were received from the USEPA, affected states or public concerning the draft or proposed Title V renewal permit for this facility.